CPAM 2005-0007, ARCOLA AREA/ROUTE 50 COMPREHENSIVE PLAN AMENDMENT

BUILD-OUT ANALYSIS

Prepared: February 27, 2006

Background Discussion:

The estimated build-out should not be viewed as a predictive effort, but rather as an estimate of potential. Conditions vary widely parcel by parcel and may be affected over time by market forces, technology changes, regulatory issues, and property owner decisions (e.g. conservation easements). The methodology that was used provides a conservative estimate of residential, employment, retail, and industrial uses within the study area.

For purposes of this paper, staff compares two alternative development scenarios[1]. The scenarios are defined as follows:

1. **Current Potential**
   Densities based on Plan policies for the Suburban Policy Area (segments 1 through 4). (See Attachment 1: Planned Land Use Map)

   - Planned Business (Segments 1, 2, and 4): 25% of net acreage (See Attachment 5 for definition of net buildable acres) assumed for high density residential development (16 dwelling units per acre), 10% assumed to be retail uses, 50% assumed to be employment uses (regional office and light industrial), 10% assumed to be open space, and 5% civic space, as described in the land use mix ratio for regional office and light industrial land uses in the Revised General Plan for Business Communities. Land located within the 65 Ldn noise contour is assumed to develop with 75% employment uses as residential development is not permitted in these areas.

   - Planned Industrial (Segments 1 and 3) and Extractive Industry (Segment 1): 70% of net acreage assumed for industrial uses, 10% assumed for employment uses (light industrial and regional office), 10% retail, and 10% open space as described in the land use mix ratio for General Industrial Communities in the Revised General Plan.

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[1] Parcels located within the Transition Policy Area as well as those parcels associated with the Shockey Family (CPAM 2004-0022) and Greenvest/Dulles South (CPAM 2004-0021) applications were not included in the build-out analysis as they are being reviewed in conjunction with CPAM 2005-0003, Comprehensive Plan Amendment for the Upper Broad Run and Upper Foley Transition Subareas. Additional parcels were also not included in the build-out analysis that were separated from the Route 50 Task Force parcels by the Shockey Family and Greenvest/Dulles South parcels. Additional parcels were included in the build-out analysis adjacent to segment 3, located between segment 3 and CPAM 2005-0003. See Attachment 4: Build-out Analysis Map

- Planned Corridor Retail (Segments 2 and 3): 2,000,000 square feet of retail, with 1,000,000 square feet north and 1,000,000 square feet south of Route 50 (Retail Plan, Policy 1, p. 11). The County anticipates other uses (such as office, light industrial, civic uses) to develop in the Corridor Retail area (Retail Plan, Policy 7, p. 12). Once the 2,000,000 square feet of corridor retail is built-out in this area, assumed 75% employment uses, 10% retail uses, 10% open space, and 5% civic uses based on the land use mix for light industrial and regional office land uses in the Revised General Plan for Business Communities. A residential component is not included, as the Plan does not envision residential uses within the planned Corridor Retail area.

2. **Route 50 Task Force**
   Densities based on recommendations provided in the Route 50 Task Force Final Report, July 2005. (See Attachment 2: Proposed Arcola Area/Route 50 Corridor Planned Land Use Map)

- Planned Business (Segments 1, 2, 3 and 4): 25% of net acreage assumed for high density residential development (16 dwelling units per acre), 20% assumed to be retail uses, 40% assumed to be employment uses (regional office and light industrial), 10% open space, and 5% civic space, as proposed in the land use mix ratio for regional office and light industrial land uses in the Revised General Plan for Business Communities. Retail uses in excess of 10% will be permitted for employment serving, community serving, and tourism supported retail uses when specific criteria are met (Arcola Area/Route 50 Corridor Plan). Since it is difficult to quantify when this criteria will be met, assumed 20% retail uses however, this number may be higher. 100% high density residential development (16 dwelling units per acre) assumed north of Route 50, adjacent to the destination retail overlay area. Developments expected to provide 30% open space and 10% civic space per the land use matrix for high-density residential neighborhoods, with densities determined based on the gross acreage of the site. Land located within the 65 Ldn noise contour assumed to develop with 65% employment uses as residential development is not permitted in these areas.

- Village of Arcola (Segment 3): 100% of net acreage outside of the 65 Ldn noise contour assumed for residential development (4 dwelling units per acre). Developments expected to provide 30% open space and 10% civic space, with residential densities based on the gross acreage of the site.

- Village Transition Area (Segment 3): 100% of net acreage outside of the 65 Ldn noise contour assumed for high-density residential development (16 dwelling units per acre). Developments expected to provide 30% open space and 10% civic space, with residential densities based on the gross acreage of the site.

- Destination Retail Overlay (Segment 3): 100% of net acreage assumed for retail development. Developments expected to provide usable open space with floor area ratio (FAR) determined based on the gross acreage of the site.

- Planned Industrial (Segment 1): 60% of net acreage assumed for industrial uses, 10% assumed for employment uses (light industrial and regional office), 20% retail, and 10% open space as proposed in the land use mix ratio for General Industrial Communities in the Revised General Plan. As stated above, retail uses could be higher than the assumed 20%.

- Planned Extractive Industry (Segment 1): Assumed same build-out potential as the current potential.

- Planned Residential (Segment 2): 100% of net acreage assumed for residential development (4 dwelling units per acre). Developments expected to provide 30% open space and 10% civic space, with residential densities based on the gross acreage of the site. The Route 50 Task Force recommended changing the planned land use south of the Tall Cedars Parkway alignment to permit residential development with minor office and retail uses. The area in which the alignment for Tall Cedars Parkway is known is assumed to develop with residential land uses, those areas where the alignment for Tall Cedars Parkway is uncertain are evaluated using the Planned Business land use mix (See Above) (See Attachment 3: Proposed Planned Land Use Map Changes).

Estimated Build-out

The maximum potential additional residential units, retail uses[2], employment uses, and industrial uses that could be developed in the four segment areas are calculated for each of the different development scenarios, as described above (see Tables 1 and 2). The analysis is parcel based – that is, each parcel in the four segment areas was evaluated to determine whether it was "developable". The analysis took into consideration environmental constraints such as floodplains, existing uses, and approved but unbuilt uses (see Attachment 5: Build-out Analysis Methodology for Alternative Scenarios).

Floor area ratios (FARs) are determined based on current development patterns within the County for the specific land use (regional office and light industrial – 0.25 FAR, industrial – 0.20 FAR, and retail – 0.20 FAR). Residential densities are determined based on the maximum allowable density (high density residential – 16 dwelling units per acre and residential neighborhood – 4 dwelling units per acre, per Revised General Plan policy).

[2] Retail uses could be greater for the Route 50 Task Force Scenario as additional retail is permitted beyond the 10% allowable in the land use matrix if certain criteria are met.

Table 1: Estimated Buildout (Current Potential)

	Residential (dwelling units)	Employment (square feet)	Retail (square feet)	Industrial (square feet)
Segment 1	1,206	1,436,761	443,805	1,782,423
Segment 2	867	2,005,295	1,191,394	0
Segment 3	40	2,113,348	1,534,919	2,672,075
Segment 4	1,310	813,514	184,175	0
Total	**3,423**	**6,368,918**	**3,354,293**	**4,454,498**

Table 2: Estimated Build-out (Route 50 Task Force)

	Residential (dwelling units)	Employment (square feet)	Retail (square feet)*	Industrial (square feet)
Segment 1	1,206	1,277,919	824,057	1,529,243
Segment 2	1,496	1,669,416	717,914	0
Segment 3	3,301	3,268,551	2,121,875	0
Segment 4	1,310	777,045	213,351	0
Total	**7,313**	**6,992,931**	**3,877,197**	**1,529,243**

*Assumed 20% retail uses. Additional retail is permitted beyond the 10% allowable in the land use matrix if certain criteria are met.

The Route 50 Task Force recommendations represent an increase of 3,890 residential dwelling units, 624,013 square feet of employment uses, and 522,904 square feet of retail space and a decrease in industrial uses by 2,925,255 square feet. It should be noted that the Arcola Area/Route 50 Corridor Plan proposes additional retail development beyond the permitted 10% when specific criteria are met; therefore, retail uses for Scenario 2 may be higher than predicted.

Capital Facilities

County funding policies call for an equitable sharing of costs between the public and private sectors. The County takes responsibility for the services needed by development permitted by current zoning. Current policy stipulates that the Board will use a range of funding mechanisms including special tax districts, bonds, impact fees and other financial tools. The constraining factor is a self-imposed limit on debt set by the Board's 1984 Fiscal Policy as amended. That limit is set by separate Board resolution outside of the Comprehensive Plan.

If a development proposes to change their zoning, they are then responsible for the incremental increase in service demand over what is permitted by the current zoning. That increment is determined through an analysis of per capita and per child costs of various capital facilities. This *fair share* approach also allows the developer to pay through installments as houses are built. The Board's 2005 proposed changes to the proffer guidelines allow a developer more ways to satisfy their capital facilities contribution. The most significant is the ability to credit transportation proffers towards capital facilities if the transportation proffers go beyond mitigating their traffic impacts. To date, trails, park and ride lots, additional regional road improvements have been credited to capital facilities. While this change reflects the Board's concern about transportation issues, it does further aggravate the capital facilities levels of other services.

A. Capital Intensity Factor

County agencies have established service levels that determine the need and location of new facilities and programs. These have been consolidated to form the County's Capital Intensity Factor (CIF) by which the impacts of new development on public services are measured. The CIF is currently assessed at:

Single Family Detached:	$37,660
Single Family Attached:	$22,291
Multi-family:	$12,611

B. Proffers

The proffer system is voluntary and flexible, which allows contributions to be tailored to specific capital needs. However, the proffer system is a reactive system based on the market and on development decisions made by individual landowners. There is uncertainty about which or when land development proposals will be built and capital funding from proffers consistently lags behind demand for the service or facility. The fragmented nature of the system makes it unreliable as a source of significant levels of capital funding. Historically, Loudoun County proffers have offset only a minimal percentage of projected capital expenditures. In the FY05-FY10 Proposed Capital Plan, two percent of the total Capital Improvement Program (CIP) projected expenditures are from a combination of cash or land proffers totally $18.6 million over the six-year plan (FY 2006 Adopted Fiscal Plan, p. 633). The County will continue to use the proffer system, but by themselves, proffers will continue to be only a minor part of the necessary capital program and none of the operating funding.

Based on the Plan's proffer guidelines, the County does not envision new development contributing to the capital facility needs of the underlying base zoning. In the scenarios outlined in this report, the County will bear the cost of the development permitted under current zoning. Other changes adopted in 2005, particularly the method of calculating the developer's credit for the "by-right" units, allowing transportation improvements to count towards capital facilities costs and giving partial credit to privately owned facilities, will significantly reduce the anticipated proffer contribution to capital costs (see Attachment 6: Board Proffer Policy Revisions, February 2005).

The current capital needs assessment has been used to measure the impact of the two development scenarios and to estimate capital facilities proffers that will be offered by development applicants based on County guidelines (see Table 3). These costs do not reflect the future costs of operating, staffing, and maintaining these facilities, or the credit for affordable housing units. For example, the 2004-05 operating expenditure per student in the Loudoun County school system was $10,316.

The mix of unit types for the two development scenarios were determined based on a 50/50 mix of single-family attached and multi-family units for densities of 16 dwelling units per acre. Current development in the Dulles Community was used to estimate the unit type mixes for densities of 4 dwelling units per acre (48% single-family detached, 38% single-family attached, and 14% multi-family). Approved but unbuilt residential developments were calculated based on the approved mix of unit types.

Table 3: Estimate of Capital Costs

	Scenario 1: Current Potential	Scenario 2: Route 50 Task Force
Housing Units	3,253*	6,608*
Population	4,076	12,960
Students	587	1,839
Anticipated Capital Cost	32,135,318	101,123,046
County share of costs	7,381,360	8,285,200
Development Share	24,753,958	92,837,846

*Housing units associated with South Riding, Pinebrook, Amber Springs, and Stone Ridge (ZMAP 1994-0017) were not included in the population, student, and capital costs calculations (1661 dwelling units).

ATTACHMENTS:

Attachment 1: Planned Land Use Map
Attachment 2: Proposed Arcola Area/Route 50 Corridor Planned Land Use Map
Attachment 3: Proposed Planned Land Use Map Changes
Attachment 4: Build-out Analysis Map
Attachment 5: Build-out Analysis Methodology for Alternative Scenarios
Attachment 6: Board Proffer Policy Revisions, February 2005

Attachment 5: Build-out Analysis Methodology for Alternative Scenarios

Data Sources

Data for this work was extracted on January 11 and 12, 2006 from the County's Land Management Information System (LMIS). The following data were extracted for all parcels in the study area:

MCPI (Unique Parcel Identifier Number)
Primary Zoning
Planned Land Use
Parcel Occupancy Code (used to determine use of the parcel)
Legal Acres
Noise Contour
Floodplain (Major and Minor)
State Use Classification
Assessments (land and improvements)

Analysis Methodology

The following method was used to determine: 1) whether a parcel was "developable"; and 2) the maximum estimated number of residential units and/or floor area ratio that could be built under the two development scenarios. To determine whether a parcel was "developable," parcels were examined and either removed from the analysis, or their development potential was modified based on the following assumptions:

1. Net buildable acres includes all acreage minus major floodplains, parcels owned by Chantilly Crushed Stone, County owned parcels, and parcels under construction.

2. Parcel by parcel analysis.

3. Parcel considered fully developable if improvements were assessed at less than $100,000 in 2005.

4. The land use mix for each of the planned land use designations was applied to the total acreage for that category within the segment area.

5. Parcels located 50% or more outside of the study area were removed from the analysis.

6. Segment 4 parcels located within the Transition Policy Area as well as the Shockey Family (CPAM 2004-0022) and Greenvest/Dulles South (CPAM 2004-0021) parcels located in Segments 3 and 4 were removed from the analysis as these parcels are being reviewed in conjunction with CPAM 2005-0003, Comprehensive Plan Amendment for the Upper Broad Run and Upper Foley Transition Subareas. Additionally, staff recommends those parcels located within Segments 3 and 4 that are separated from the Route 50 Task Force segment area by means of the Shockey Family and

Greenvest/Dulles South parcels be included in the CPAM 2005-0003, Comprehensive Plan Amendment for the Upper Broad Run and Upper Foley Transition Subareas (See Attachment 4: Build-out Analysis Map)

7. Additional parcels were included in the build-out analysis adjacent to segment 3 (See Attachment 4: Build-out Analysis Map). These parcels were included in the analysis as they are located in between the Route 50 Task Force Segment Area and CPAM 2005-0003, Comprehensive Plan Amendment for the Upper Broad Run and Upper Foley Transition Subareas.

8. Residential developments approved but unbuilt such as East Gate I and III, Pinebrook, South Riding, Stone Ridge, and Townes of East Gate were included based on the number of dwelling units approved for the subject property. Winsbury Lots subdivision (40 lots) was included in the current potential; however, the property could rezone to a higher density under the Route 50 Task Force recommendations and therefore the acreage of the property was included in Scenario 2.

9. Non-residential developments such as East Gate II, South Riding, South Riding Market Square, Main Street, and Stone Ridge were included based on the square footage approved for the subject property. Arcola Center at Hutchison Farm, ZMAP 1998-0004 (200,000 square feet of office and 811,500 square feet of retail space) was included in the current potential; however, the property is currently seeking a rezoning therefore the acreage of the property was included in Scenario 2.

10. Consideration was not given to parcels that may have private restrictive covenants that limit development as the data was not available.

11. Acreage within the 65 Ldn noise contour was not given a residential component.

12. **Scenario 1 (Current Potential):**

- For Segment 1:

  Planned Business: 25% high density residential land uses at 16 dwelling units per acre outside of the 65 Ldn noise contour, 50% employment uses (regional office/light industrial), 10% retail, 10% open space, and 5% civic. Acreages within the 65 Ldn noise contour assumed 75% employment uses (based on Revised General Plan, Regional Office and Light Industrial Land Use Mix).

  Planned Industrial and Extractive Industry: 70% industrial land uses, 5% light industrial, 5% regional office, 10% retail, and 10% open space (based on Revised General Plan, General Industrial Land Use Mix).

- For Segment 2:

  Planned Corridor Retail: 1,000,000 square feet of retail space (includes existing and approved retail uses). Once the 1,000,000 square feet of retail space is realized assumed 75% employment uses, 10% retail, 10% open space, and 5% civic (based on Retail Plan and Revised General Plan).

Planned Business: 25% high density residential land uses at 16 dwelling units per acre, 50% employment uses, 10% retail, 10% open space, and 5% civic (based on Revised General Plan, Regional Office and Light Industrial Land Use Mix).

- For Segment 3:

  Planned Corridor Retail: 1,000,000 square feet of retail space (includes existing and approved retail uses such as Arcola Center at Hutchison Farm, ZMAP 1998,0004). Once the 1,000,000 square feet of retail space is realized assumed 75% employment uses, 10% retail, 10% open space, and 5% civic (based on Retail Plan and Revised General Plan).

  Planned Industrial: 70% industrial land uses, 5% light industrial, 5% regional office, 10% retail, and 10% open space (based on Revised General Plan, General Industrial Land Use Mix). Included 40 residential dwelling units approved with SBPL 2005-0002, Winsbury West.

- For Segment 4:

  Planned Business: 25% high density residential land uses at 16 dwelling units per acre, 50% employment uses, 10% retail, 10% open space, and 5% civic (based on Revised General Plan, Regional Office and Light Industrial Land Use Mix).

13. **Scenario 2 (Route 50 Task Force Recommendations):**

- For Segments 1, 2, and 4:

  Planned Business: 25% high density residential land uses at 16 dwelling units per acre outside of the 65 Ldn noise contour, 40% employment uses, 20% retail, 10% open space, and 5% civic. Acreages within the 65 Ldn noise contour assumed 65% employment uses (based on proposed Revised General Plan, Regional Office and Light Industrial Land Use Mix). Scenario 2 assumed retail at 20% however; since increased retail is based on a number of factors the retail development potential may be higher than predicted (Increased retail permitted when specific criteria are met, see proposed Arcola Area/Route 50 Corridor Plan).

- For Segment 1:

  Planned Industrial and Extractive Industry: Same as current potential with the potential for increased retail. As stated above, increased retail was not included in the build-out analysis for Scenario 2.

- For Segment 2: Planned Residential land uses south of Tall Cedars Parkway.

Planned Residential: 100% residential land uses at 4 dwelling units per acre. Developments expected to provide 30% open space and 10% civic space with residential densities based on the gross acreage of the site (based on Revised General Plan, Residential Land Use Policies).

- For Segment 3: Planned Business, Village of Arcola, Village Transition Area, and Destination Retail Overlay

Planned Business: 25% high density residential land uses at 16 dwelling units per acre outside of the 65 Ldn noise contour, 40% employment uses, 20% retail, 10% open space, and 5% civic. Acreages within the 65 Ldn noise contour assumed 65% employment uses (based on Revised General Plan, Regional Office and Light Industrial Land Use Mix). Scenario 2 assumed retail at 20% however; since increased retail is based on a number of factors the retail development potential may be higher than predicted (Increased retail permitted when specific criteria are met, see proposed Arcola Area/Route 50 Corridor Plan).

Assumed 100% high density residential land uses for those areas outside of the 65 Ldn noise contour and adjacent to the Lifestyle "hub" at 16 dwelling units per acre (Specific criteria must be met in order to develop 100% residential land uses, see proposed Arcola Area/Route 50 Corridor Plan). Developments expected to provide 30% open space and 10% civic space with densities based on the gross acreage of the site (based on Revised General Plan, High-Density Residential Land Use Policies).

Village of Arcola: 100% residential land uses at 4 dwelling units per acre for those areas outside of the 65 Ldn noise contour (based on proposed Arcola Area/Route 50 Corridor Plan). Developments expected to provide 30% open space and 10% civic space with densities based on the gross acreage of the site (based on, Revised General Plan, Residential Land Use Policies).

Village Transition Area: 100% high-density residential land uses at 16 dwelling units per acre for those areas outside of the 65 Ldn noise contour (based on proposed Arcola Area/Route 50 Corridor Plan). Developments expected to provide 30% open space and 10% civic space with densities based on the gross acreage of the site (based on, Revised General Plan, Residential Land Use Policies).

Destination Retail Overlay: 100% retail land uses. Developments expected to provide usable open space with FAR determined based on the gross acreage of the site (based on Retail Plan).

Attachment 6: Board Proffer Policy Revisions, February 2005

The following policy revisions have been adopted by the Board of Supervisors. Several are awaiting a Comprehensive Plan Amendment. However, applicants may now receive capital facilities credit for transportation improvements that go beyond mitigating the project transportation impacts and the credit for the units permitted by the base zoning (by-right units) have been modified.

- **Commercial Capital Facility Contribution** – The Board proposes to add to that policy with a policy statement that calculates a commercial, per-square-feet capital facility proffer contribution for commercial properties to mitigate their impact on the County's need for public safety facilities. The two public safety departments estimate that the residential call volume represents 80% of their service calls and commercial call volume 20% of their service calls. The proposal recommends the commercial contribution rate be set at $0.15 per gross square foot as a voluntary capital facility contribution for which a capital facility credit is given during rezoning proffer negotiations.

- **Credits for Private/HOA Constructed Recreation Facilities -** Currently, the County's policy permits a partial or full capital facility credit if the private/HOA constructed facility is programmed by the Department of Parks, Recreation and Community Services for public use. The Board recommends this credit be extended for private/HOA constructed recreational facilities that the County does not program or have public use designations. This credit would recognize that these facilities, even if not programmed by the County, do reduce the need for the County to construct public recreational facilities.

- **Fire and Rescue Geographic Standards –**The service delivery models for western and eastern Loudoun County were reviewed and it was determined that the response times, which are critical to service delivery, required different capital facility standards. The western population trigger for a station is 1:10,000 population and the eastern trigger for a station is 1:25,000 population.

- **Valuation Credit Methodology for Proffered Land Sites –** The current policy uses the "prezoned" value of land to calculate proffer credit for site proffers. The Board now proposes to use an appraisal process to determine the "post-zoning" land value. This is intended to encourage more land proffers.

- **Transportation Credit –** A review of transportation proffers and credits was conducted by the committee during several meeting sessions. The committee deferred any recommendations on policy and referred the issues to the Board's Transportation Committee (Transportation/Land Use Committee as of January 2005) for further study and analysis.